



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,464	09/10/2003	Yoshiaki Katou	088473-0140	2200
22428	7590	11/23/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			PHAN, HAU VAN	PAPER NUMBER
ART UNIT 3618				

DATE MAILED: 11/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/658,464	KATOU ET AL. <i>ST</i>	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hau V Phan	3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 September 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 18-20 is/are allowed.
- 6) Claim(s) 1-5,8-10,12-14,16 and 17 is/are rejected.
- 7) Claim(s) 6,7,11 and 15 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/10/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

---

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 9/10/2003 has been considered.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-5, 8-10, 12-14 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Morisawa et al. (6,306,057).**

Morisawa et al. in figure 1, disclose a drive apparatus for a hybrid vehicle. The drive apparatus comprises an internal combustion engine (1), a damper (3) connected on one side thereof to a rear of the engine and a motor-generator (6) connected on one side thereof to another side of the damper. The motor-generator is being capable of starting the engine. Morisawa et al. also disclose a clutch (17) connected on one side

Art Unit: 3618

thereof to another side of the motor-generator, a transmission (21) connected to the internal combustion engine via the damper. The motor-generator, and the clutch and a starter motor (8) connected to the damper. The starter motor being capable of starting the engine. Morisawa et al. also disclose a battery (10) and control means for controlling the engine, the normal starting means, the restarting means, the engaging means and the transmission.

Regarding claim 2, Morisawa et al. disclose the drive apparatus further comprising a front and back selector mechanism (29) via which the transmission connects to the clutch, and a control system controlling a drive state of the motor-generator, the starter motor, an engagement state of the clutch, and a shift state of the transmission .

Regarding claim 3, Morisawa et al. disclose the clutch, which engages by electromagnetic force, and a dividing wall of magnetic material is disposed between the motor-generator and the clutch.

Regarding claim 4, Morisawa et al. disclose the clutch comprising a pilot clutch of small diameter which engages by electromagnetic force, a cam mechanism which changes engagement force of the pilot clutch into axial-direction thrust, and a main clutch of large diameter which is made to engage by the axial-direction thrust.

Regarding claim 5, Morisawa et al. disclose the motor-generator comprising a rotor, an outer diameter of the rotor being greater than respective outer diameters of the clutch and the damper. The motor-generator being disposed between the damper and the clutch.

Regarding claim 8, Morisawa et al. disclose the motor-generator, which is supported on an input shaft, which is joined to a clutch drum of the clutch as an integral body. The input shaft being supported by the dividing wall via a bearing.

Regarding claim 9, Morisawa et al. disclose a tip end of the input shaft, which is extended so as to be disposed within and supported by an end of the output shaft of the engine via a bearing.

Regarding claim 10, Morisawa et al. disclose the motor-generator comprising a stator, which overlaps the clutch and the damper in the radial direction around the respective outer circumferences thereof.

Regarding claim 12, Morisawa et al. disclose the damper further comprising a ring gear disposed on an outer circumference thereof. The ring gear meshes with the starter motor.

Regarding claim 14, Morisawa et al. disclose the engaging means comprising a magnetic clutch, and the drive apparatus further comprises preventative means for preventing the restarting means from electromagnetically influencing the magnetic clutch. The magnetic clutch comprises an electromagnet, a pilot clutch, which is made to engage by the electromagnet, and a main clutch larger than the pilot clutch. The main clutch being made to engage under applied axial-direction thrust, which has been transformed from engagement force of the pilot clutch, engagement force of the pilot clutch being transformed by a torque cam mechanism.

Regarding claim 16, Morisawa et al. disclose an input shaft, which is supported via a bearing by the preventative means. The input shaft both support the restarting

means and forming an integral body with a clutch drum of the engaging means. The damping means being joined at one end thereof to the input shaft and at another end thereof to an output shaft of the engine.

Regarding claim 17, Morisawa et al. disclose the input shaft, which is supported at a tip end thereof via a bearing within the output shaft of the engine. The input shaft thereby being supported at two locations.

#### ***Allowable Subject Matter***

5. Claims 6-7, 11 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 18-19 are allowed.

7. The following is an examiner's statement of reasons for allowance.

The prior art does not teach the drive system for a hybrid vehicle as recited in claim 18, which includes an impervious inflatable metal bag fixed to a support. The impervious inflatable bag includes a control system which detects a speed of the vehicle, a state of a brake switch, and a temperature of oil in the transmission, and which determines execution of an idle-stop function to temporarily stop the engine. The control system executing the idle-stop function if a set of idle-stop conditions including the vehicle speed being 0 km/h, the brake switch being in an ON state, and the oil temperature being within a predetermined range are met, the engine being started with the motor-generator when the brake pedal is released during execution of the idle-stop function.

This recitation, in combination with the rest of the recited elements, clearly defines over the prior art.

---

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Levin discloses a hybrid power train, Stridsberg discloses a hybrid powertrain, Tamai et al. disclose a hybrid electric drive and control method, Taniguchi et al. disclose a drive unit for hybrid vehicle, Raad discloses an integrated retarder and accessory device, Hoang et al. disclose a torque control system, Koneda et al. disclose a motor/alternator with integral wet clutch.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau V Phan whose telephone number is 703-308-2084. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christ Ellis can be reached on 703-308-2560. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hau V Phan  
Examiner  
Art Unit 3618



11/16/04

**HAU PHAN**  
**PATENT EXAMINER**